PROGRAMMING UTILITIES FOR THE 64

# B A S I C  A I D

BY

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## USER GUIDE

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# B A S I C  A I D

PROGRAMMING UTILITIES FOR THE 64

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# STARTING OUT

1. Turn power ON your computer system.
   The following sequence is recommended:
   Printer
   Commodore 64
   Monitor
   Disk

2. Remove the BASIC AID diskette from its protective sleeve, insert in disk drive and close door

3. Type:
   LOAD"*",8,1
   or
   LOAD"BOOT",8,1

4. BASIC AID will load. Loading takes about 60 seconds.

5. Insert your work diskette containing your program(s).

6. Select the desired function(s) from the displayed menu.

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## What Is BASIC AID?

BASIC AID is a set of tools designed to make your Basic programming easier and more productive. Using BASIC AID most effectively means writing self-contained subroutines, storing them as a library, and then using them repetitively to form new programs. BASIC AID brings structured programming to the Commodore 64!

The utilities provided in BASIC AID give you the ability to:

1. Renumber all or part of a Basic program.
2. Extract a portion of a program.
3. Merge any two existing program files.
4. Find/Replace any text string or keyword combination.
5. Cross reference any Basic program.

The product is structured as two programs: the main program contains the BASIC AID menu and program manipulation routines. The second program, which is called by the menu, provides the cross-reference facility.

NOTE: In all except the Cross Reference utility, a back-up version of your program is saved and given the prefix "BU.xxxx". For example, if you renumber a program named "TEST", a copy of your original program is kept and named "BU.TEST".

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## RENUMBER

The RENUMBER utility will allow you to renumber a program with all referenced line numbers being updated.

NOTE: In addition to the "BU.programname" file, this program also uses a temporary file called "XNUM.TEMP" which is purged during processing.

To use the RENUMBER utility:

1. Select option 1 (RENUMBER) from the menu
2. To renumber an ENTIRE program:
   a. Enter the name of the program you wish to renumber in response to the "Input File" prompt.
   b. Enter the line number you want as the first line of the program in response to the "Starting #" prompt.
   c. Enter the increment (the number you want added each time to create the next line number) in response to the "Increment" prompt.
   d. RETURN through both the "Start of Range" and "End of Range" prompts.
3. To renumber a PORTION of a program:
   a. Enter the name of the program you wish to renumber in response to the "Input File" prompt.
   b. RETURN through the "Starting #" prompt.
   c. Enter the new increment you wish used in response to the "Increment" prompt.
   d. Enter the line number of the first line of the range to be renumbered.
   e. Enter the line number of the last line of the range to be renumbered. (Default is 63999 - the highest possible line number.)

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## SUBROUTINE EXTRACT

The EXTRACT utility will allow you to take any part of any Basic program and create a new subroutine program file.

To use the EXTRACT utility:

1. Enter the name of the file from which you wish to extract in response to the "Input File" prompt.
2. Enter the name of the (new) file which will contain the extracted subroutine.
3. Enter the line number of the first line you wish extracted in response to the "Starting Line" prompt.
4. Enter the line number of the last line you wish extracted in response to the "Ending Line" prompt.

When the utility has finished, it will return to the menu. You can then (possibly) renumber it, and merge it into another program. (An easier way to copy a working subroutine from one program to another We've never seen!)

Author's Note: I have created a set of subroutines which all fall within lines 100 thru 999. These are all tested subroutines that I use constantly. Rather than retyping them each time, I merge them into the new program that I'm writing. When I renumber, I normally renumber all lines in the range of 1000 thru 63999. Thus the subroutines are left intact if I need to add one.

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## PROGRAM MERGE

The MERGE utility will allow you to combine two program files together in numeric (line number) order.

NOTE: Should the two programs have an identical line number, the line from the primary file is retained and the line from the secondary file is dropped.

To use the MERGE utility:

1. Select option 3 (MERGE) from the menu.
2. Enter the name of the file you want as the primary file in response to the "Primary File" prompt. (Note: any duplication of line numbers will be taken from this file!)
3. Enter the name of the file you want to merge into the primary file in response to the "Secondary File" prompt.
4. Enter the name of the merged file created from the two input files.

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## SEARCH & REPLACE

The REPLACE utility allows you to replace all occurrences of a specified string throughout a range of your program.

To use the REPLACE utility:

1. Select option 4 (REPLACE) from the menu.
2. Enter the name of your program in response to the "Input File" prompt.
3. Enter the string you wish to replace in response to the "Find String" prompt.
4. Enter the replacement string in response to the "Replace With" prompt.
5. Enter the beginning line number from which to start searching in response to the "Start of Range" prompt.
6. Enter the ending line number at which to stop searching in response to the "End of Range" prompt.

The utility will read your program and replace the indicated string. The Basic Aid menu will be displayed when the replacement operation is completed.

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## PROGRAM CROSS-REFERENCE

The CROSS REFERENCE program produces a complete cross reference of all variables and line numbers used in your program.

Since all references are kept in computer memory, once the CROSS REFERENCE is loaded you can use it for any Basic program on any disk.

The utility offers two types of listings; a normal listing, in which each line appears just as if you had entered:

```
OPEN4,4,7
CMD4
LIST
```

The other option is an expanded listing format in which each Basic statement is printed on a separate line. For example, the line:

```
10 FOR I=1 TO 10:PRINT I:NEXT
```

would appear as:

```
10 FOR I=1 TO 10
   PRINT I
   NEXT
```

To use CROSS REFERENCE:

1. Select option 5 (Cross Reference) from the menu.
2. Enter the name of the program you wish to cross-reference in response to the "Program Name" prompt.
3. Enter "n" or "e" in response to the "Normal/Expanded Listing" prompt.

At this point the screen will blank, and the utility will begin reading your program from disk and printing the listing. The screen will be redisplayed at one point to advise "Please wait, sorting." When the sort completes, the screen will again blank while the line number and variables references are printed. The Basic Aid menu will be redisplayed when the cross-reference is complete.

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## APPENDIX A

### Equipment Supported by this Product

BASIC AID is designed to operate on the Commodore 64 with a 1541 disk drive. Serial-bus printers are supported. IEEE printers and 1541-compatible disks may operate correctly with an appropriate transparent interface; however no warranty is made with regard to any particular system configuration.

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